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Dr. BRONSON'S ADDRESS

TO

THE CANDIDATES

FOR THE

DEGREE OF DOCTOR IN MEDICINE,

IN THE

Medical Institution of Yale College,

JANUARY 15, 1863.

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BY  
HENRY BRONSON, M. D.,  
IN BEHALF OF THE BOARD OF EXAMINERS.

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## ADDRESS.

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SCIENCE has been represented as a pleasing study, and much has been done to set forth, by description and embellishment, its numerous attractions. In this way, attempts have been made to awaken in the popular mind a love for its study. Science has, indeed, its seductions. Those who tread its quiet paths know its joys ; but I doubt if one earnest mind has been thoroughly wedded to its embrace, with joy for his object. There must be a higher motive. Those who think science is but a chase after dandelions and butterflies, know little of its secrets, little of the springs of human action. If they have been attracted to it by the adornments which have been thrown around it—if they pursue it for the agreeable excitement which it is expected to furnish—they will soon get weary and sore-footed. The genuine pilgrim of science is sustained by something better and more permanent. He loves it for its own sake. He is not in search of pleasure but of truth, and he would continue the pursuit though it brought no reward. He would continue it, though each footstep was marked with blood. An inward impulse which he cannot resist urges him on, and come weal or woe, with calm indifference, he perseveres to the end.

If any of you, my young friends, began your medical studies with the expectation that you were sitting down to an entertainment, your delusion, I doubt not, is by this time dispelled. I have small respect for those attainments in science which come through an excited and unsatisfied fancy, or for that knowledge which is cultivated only for the agreeable emotions it awakens. Acquirements of this sort may tickle the sensibility—may make one feel for the moment happy, as the phrase is ; but they are not of the sort calculated to satisfy the lofty aims of a thoughtful mind. True science comes of study, and study is not a pleas-

ure. Pleasure may follow it—may perhaps attend it, but it is not itself a pleasure. Study is labor, and hard study is hard labor, and labor is more or less painful. There is prolonged effort in which the soul bends over its task, and struggles sometimes with its utmost might. It is an active and not a passive state, an exercise of intellect not feeling. Reading, hearing lectures and witnessing practice, though important as affording materials for reflection, are of little use of themselves. They do not of necessity call into play the thinking faculty. They are not study.

We are all made for work. High and low, rich and poor, wise and simple, all are made for work, each according to his endowments. For this brain and muscle have been given us. For this are we fitted, and for this were we created. Our condition requires it of us, and we should not escape it though we could. That man having the faculties of a man is not worthy to live who will not labor. The curse (or rather the necessity for it is not a curse) has passed upon all, and peril must attend the attempt to sever it from our condition here. The young physician has taken upon himself work, and most important work too. If he acts as becomes an immortal spirit eager to do his work and do it well, he must live a life of struggling toil. If he labors manfully, he will find enjoyment in his profession ; but if he has entered upon it on account of its supposed popular attractions, or that he may lead a pleasant life and escape a military draft ; if he has entered upon it for pleasure, or profit, or privilege, he has mistaken his calling, and will never reach the goal of honor.—From my remarks, you will infer, perhaps, that I am not a believer in the celebrated happiness-theory in philosophy, whether we regard the motives of action or the ends of existence.

In my opinion, gentlemen, the students of the present day, medical and other, rely too much upon outward helps—too much on their teachers and not enough on themselves. Knowledge is too often regarded as something which may be received through a quill, or thrown into one by some mechanical process. Colleges are places where young men, at the whittling age, are operated on—innoculated or injected with ideas. Professors are persons in “specs” who manage dexterously the intellectual syringe, and who can distend the vacant mind with the needful



in the shortest possible time. But these are false views, and dangerous when put in practice. Knowledge, to be worth much, is obtained after another fashion. It must be sought for with personal effort—dug from the mine with self-sacrificing toil. Ideas soon perish unless you mix a little brain with them. If you would make a cripple of a man put him on crutches when young. If you would rear a generation of paralytics and intellectual dwarfs, teach our youth to ride when they should walk, and to use others' heads when they should employ their own. Lead them into smooth and pleasant ways, and assist them when they meet with difficulties. Permit them not to exert their faculties, to contend with obstacles, to do rough and hard work, to strengthen themselves by unassisted, personal toil. In this way, whatever would contribute to a vigorous manhood will be weeded out.

Medicine is not without dignity, and it certainly does not lack importance. You may bestow on it your best energies—wear out your life in its pursuit—and be conscious of spending your time worthily. To master its details and surmount its difficulties, you must cultivate rigid habits of study and observation. A sound, well-balanced and well-stored mind is demanded. That rare intellectual quality, called common sense—which is the sum and substance of all sense—is indispensable. A judgment that is not easily moved from its seat, or turned aside by pre-conceived views, is a priceless possession. The temptations to go astray are numerous and sometimes almost irresistible, but they must be resisted.

There are two classes of minds in the world of which we have examples in the medical profession. One class is known by a just and equal development of the mental powers. More than others, they are under the control of *intellect*. They are prudent, cautious, calculating; think before they act, and look to the consequences of what they do. Cool, consistent, systematic, they display a good degree of the common sense just referred to. They are careful observers, wary reasoners, circumspect in giving opinions, but firm and decided when a conclusion has been reached. Suspicious of appearances, distrustful of testimony, in doubt when others are convinced, they get the name of being

skeptical. They have an abiding faith in the uniformity of nature and the persistency of law ; and at the same time discern with distinctness the boundaries of human reason, and the limit between the possible and impossible. Seeing clearly that which is within the reach of honest vision, they do not pretend to know what lies beyond. Nothing will convince them that a man can see through a mill-stone unless there is a hole in it. They know the length of their line, and can tell the fathoms so long as they are within soundings ; but naturally distrust those who, with a no longer line, pretend to find bottom in deeper water.

The prudent men of whom I am speaking sometimes seem to lack enterprise. They may appear timid and uncertain when a greater degree of boldness and dash—what they would term audacity—might be considered as called for. They decline to act till probabilities have been balanced and provision made for contingences ; and are thus, sometimes, thought to lose the golden opportunity by delay. Hence their success, though it may be regular and ultimately certain, is not so likely to arrest the attention. They are not accounted brilliant. Their blows are incessant, and by accumulation effective ; but they rarely attempt, and are sometimes unable, to deliver those master strokes which astonish and bewilder. They are habitually discreet, pusillanimous their enemies affirm ; throw grass, it is said, when they should throw stones, or turn back at the sight of “quaker guns.” They are much in the way of more ardent spirits, and are berated for their timidity and snail-like movements. In times of popular excitement, they are accused of hanging on the wheels of progress to the great indignation of those who are tugging at the traces.

I said the cautious man was hard-headed and sometimes skeptical. He may be unreasonably so ; but a rational skepticism is much needed by the inquirer after medical truth. If exercised with moderation, it will afford important protection against delusion and mistake. The spirit of a doubter must be cultivated by the medical man. He will find use for it every day and hour of his life. He must receive the testimony of his fellow men with due allowance for education, temperament and prejudice. Facts—alleged facts—must be looked at with a searching, suspicious eye, and inferences drawn only after every precaution against error has been taken.



The other class to which reference has been made is distinguished by a disproportionate development of the affective or emotive faculties. They are fervid men, who feel intensely, talk passionately, and who are governed not so much by reason as by sensibility and impulse.

A warm imagination and an impulsive nature are pleasant and popular qualities in a physician; but they are ever leading him upon the rocks, or plunging him into the mire. These qualities, when sufficiently developed, make the *enthusiast*, and the enthusiast is an impatient, discontented being who is never satisfied with natural processes and ordinary means. For him, these are too slow, too circuitous in their operation, and too laborious. Knowledge must be got in cheaper and better ways. Possessed of one idea, or rather the fragment of an idea, he is on fire with that, and refuses to be quenched. Every thing to him seems illuminated. His eye penetrates the dark corners of science; he perceives clearly what others see obscurely or not at all; he works out with ease the most difficult problems. He does not know why "the modern improvements" like the steam-engine, the rail-road and the telegraph may not be introduced into medicine, with a great saving of labor and gain in time. And then he will tell you that the philosopher's stone and the elixir of life will yet be discovered. There is, in his mind, nothing to ridicule in the idea of a machine to be worked by Epsom salts. He sees spectres, talks in his sleep and dreams his life away. The clouds are his dwelling place. He plants his feet upon the air and thinks to move the world. He finishes by breaking his own neck.

Enthusiasts are a strange family; but, nevertheless, interesting to the curious, and useful in their way. They give variety and liveliness to this lower world, and furnish an exhaustless subject for study. Kept in the traces, fenced in by walls which they cannot leap, they often do good service in the enterprises of life. They make good "leaders," but not safe "wheel-horses." Willing, spirited, fervent, with pricked up ears, they press forward; but they must be driven with a taut rein. They are impatient and sometimes balky; think too much of getting on, and too little of going safely, or taking the right road. If checked up suddenly they plunge; if allowed full liberty they dash upon the rocks. But with heavier, steadier, and I will add, wiser steeds

behind, and under the guidance of skillful hands, they help us along in the world, and give our movement a progressive character. Without their company and assistance, life might be too stagnant, with a somewhat solitary and monotonous aspect. Noisy, confident, vehement, they will undertake anything, but are not so certain to finish it. From lack of consideration and headlong haste, they meet with obstacles and delays which others would avoid. Were they content to wait a little, they would, peradventure, get "to Richmond" sooner.

Enthusiasts are notoriously credulous. They believe on slight testimony; take appearance for the reality, provided this harmonizes with their feelings or pre-conceived notions. With them, an event is not the less probable because it conflicts with the established laws of nature. Their opinions they get by sympathy, or example, or accident as frequently as by independent investigation. They have a blind faith in the power of drugs, and are often heard to alledge that men need not die, if they would employ, seasonably, the means of saving life. Certain medicines have virtues which others cannot find in them, and sundry articles known to be inert, are endowed with wonderful properties. They set at defiance the settled rules of scientific investigation; mistake inferences for facts, and arrive at conclusions with a jump. Having a keen relish for the marvelous, it is not difficult to secure their belief in any thing which is sufficiently extravagant or preposterous. They take, in a severe form, all the delusions which appear in the world, and are dissatisfied unless a new one is forthcoming once a month. Used to an atmosphere of imposture, they can breathe freely in no other.

Nor can enthusiasts escape the charge of skepticism. Nothing is harder than to make them accept a truth, however clearly it may be proved by observation and reasoning, if only it contradict some familiar appearance or favorite theory. They resist testimony with wonderful pertinacity, and set aside evidence which should satisfy the most scrupulous. I have known a person, claiming to be a thoughtful man, who doubted if the earth turned on its axis as the astronomers alledge; and there are those who will not admit that the outer solid materials of our planet were laid down in successive concentric layers or



strata, and that countless generations of plants and animals lived and were buried in the rocks before the age of history. —Truths like these are incredible to them, because some one of the senses, or certain traditions or articles of faith teach the reverse.

Enthusiasts are prone to superstition. The bump of the marvelous stands out prominently. They are marvel-hunters by nature, and are not satisfied with events that come in the ordinary and natural way. Admitting an element of the supernatural or unnatural in the physical world and the affairs of life, they refer to this every event of which circumstances do not offer a ready solution. Indeed, they often do more than this. Instead of taking it for granted that events pursue their natural order till a different order is proved, they assume the contrary. With them, the presumption is in favor of the supernatural or unnatural order (or rather, succession, for order supposes law, and law in nature excludes the supernatural.) In the minds of these persons, an alledged fact is not the less credible for its being a physical impossibility. The dogmas of Hahnemann command a readier assent by reason of their extravagance. Were they more reasonable, they would have fewer and less persevering advocates. Were the facts they teach more in accordance with ordinary experience and common sense, the system would lose most of its charms, and nearly all its honest defenders.

The efforts and movements of nature, the enthusiast is liable to forget. He forgets that man is mortal—that the seeds of mortality (which will surely germinate) were planted in him at the beginning—that death, at last, cannot be averted, and in many cases cannot be delayed. He forgets, too, that there is, belonging to the living body, a conservative principle which, working incessantly, repairs injuries, and takes advantage of favorable conjunctures to throw off disease and restore healthy action. Too often, he seems not aware that the animal economy is governed by laws of its own—that disease is self-limited in its own nature, and its course marked by spontaneous changes and critical days—that the system is exposed to many outside influences which modify and perhaps control its movements—that the sick sometimes get well without a doctor, or even in spite of the doctor. These cardinal facts which all are in danger of over-

looking, the enthusiast habitually neglects or ignores. His attention is so absorbed with the appearances immediately before him, with the medicines or means he is using, and the effects that are expected to follow them, that he is blind to all else. He sees distinctly but two things—a sick human body which is passive, and a thumping dose of medicine which is active. Under these circumstances, he very naturally attributes any favorable change to the thumping dose. This conclusion, however, may be a great error which nothing but his hot impatience prevents his finding out. If he would allow himself time to cool off, and to make the inquiries which more cautious heads never neglect, he would discover, perhaps, that his patient, in the interval of his visits, had received some good news, or had had a refreshing sleep. Possibly he would learn that the system was, at the time, going through a spontaneous revolution, or that the disease had reached its natural limit. The safety of the sick might require that the cause of the change should be definitely and certainly known; but too much ardor on the part of the physician, a foolish confidence in the power of drugs, and an utter forgetfulness of other influences might prevent the discovery. It is as true of the imaginative physician as of the imaginative patient that he sees, intellectually, that which he confidently expects, that to which his attention is most particularly directed. He sees that which he wishes to see—that which he thinks he ought to see—that which is most persistently pictured in his fancy; and he can see nothing else. He gives a medicine, and the change which follows is its consequence. His patient recovers, and the remedy cures him. There is no shaking his belief. He has seen it and knows it. Thus he reasons, and it is in vain that you tell him that the facts do not warrant his conclusion—that the drug is incapable of producing the effects ascribed to it—that there are other causes in operation which may account for the phenomena observed. One whose head has been turned by some new theory in medicine, administers the millionth of a grain of charcoal. After two days, improved symptoms make their appearance, and the prescriber is in an ecstasy. It is to no purpose that you apply refrigerants to his heated brain. It is to no purpose that you tell him that the alledged effect is incredible—that his patient has taken millions of such doses every day



of his life, swallowing them in his food and breathing them in the air—that millions of such doses were circulating in his blood-vessels at the very hour of his recovery, and had been from birth. It is in vain you suggest that the effect which he attributes to his dose may have been produced by some one of the millions of other doses which were co-operating with it.

It is easy to see how minds like those I have described may be led astray in their attempts to thread the mazes of medical truth. In no department of science are the stumbling blocks more numerous—none in which there is more need of searching scrutiny and wary movement. A cool head, sound sense, a well poised judgment, the power of patient and continued observation, the ability to seize the important points—the key-stone facts in an inquiry—these would seem to be more desirable than impetuous passion or blind zeal.

Untamed enthusiasm is the parent of nearly every folly and error; and yet, it may be so civilized and sobered down by the other elements of character—it may be so ballasted with intellect—that science shall receive no detriment. Something like ardor—I prefer to say warmth of temperament—is necessary to give earnestness to the mind. It provides the *vis a tergo* which urges a man onward in whatever he undertakes. It keeps up his courage in difficulty, and gives hope so long as there is any thing to be hoped for. Without it, even strong minds may not accomplish much. It furnishes security against listlessness and indolence, and enables a man to turn himself and all that he has to the best (or worst) account. An enthusiast never rusts out. He may have but a modicum of talent, but he preserves what he has, keeping it well burnished and in good repair. His lamp—it may be a mere rush-light—is not hid under a bushel.

There is a natural prejudice in favor of the *senses* as means of knowledge. These are democratic faculties; then why should they not be popular in a Republic? With respect to them, individuals are on a platform of equality, or something like it—"are born equal." All have eyes and ears; touch, smell, and taste. Men may lack the inner—the more kingly faculties; but there is usually no deficiency in these. So widely distributed are they—so little do they belong to station, or rank or class—so impartial

has nature been in their allotment, and in that of the honors which they confer, that they are not confined to aristocratic man. They are found, often in the greatest perfection, in all the higher and middle classes of animals. Some of them—those most essential to the continued existence of the individual or species—may be traced far down, sometimes, it is true, in a rudimentary state, almost to the end of the series. It is doubtful, indeed, if there is any animal which is not endowed with a share of that common sensation of which touch is but a modification.

The senses then are a common inheritance. They are old familiar friends which we have watched, in ourselves and others, from earliest life. They are the source of numerous pleasures—pleasures which are denied to none, and which make up nearly the whole experience of many. They admit, too, of almost indefinite cultivation. However much the other faculties may be neglected, these usually receive the needful attention. They have their seat in certain more or less prominent external organs. These organs are the subjects of public criticism and private admiration. Whether or not they add to one's good appearance, familiarity generates for them something like affection. The loss, then, of any eye, or a nose, is very naturally judged to be a calamity; and no matter how long a man's ears may be, he is loth to have them shortened. This attachment to confessedly important, if not graceful members, induces us, sometimes, to award them honors which they scarcely deserve. We think they impart better and more reliable information than can be obtained from other sources; and this to a certain extent may be true. The impressions which they give are more or less vivid, with a sharp outline and unmistakable characteristics. It is not so easy to ignore, or transform, or dislodge them; at least this is the common opinion. They make themselves fast to the memory and abide, after others, having a different origin, have perished. One ground of their certainty is in the fact that they, in many cases, place us side by side and in immediate contact with the things they teach, the material qualities which they represent. The knowledge they give is obtained without the intervention of mental processes and logical formulæ. Is it strange, then, that the senses should be regarded with respectful consideration by



the masses?—that their reports should be received with docile and undoubting confidence? Have they not proved themselves to be fast friends—true and faithful servants—above trick and incapable of deception?

I wish I could concur in the encomiums which the world bestows on the senses. It would give me pleasure to say that they were always honest and faithful. But the truth is, they will lie and cheat. They are notorious counterfeiters, and assume every guise to escape detection. No thrice convicted rogue will bear watching better. Under all circumstances, it will be safe to regard them with a degree of distrust, particularly when they wear a too honest face. They must be cross-questioned; the reports they bring scrutinized and sifted. Their sayings must be compared one with the other, and all be corrected by the other faculties. Whoever trusts them too confidently may expect to be taken in—may expect to become the victim of some confidence-game. And though he trust warily and use the utmost care, he will sometimes be deceived.

I need not here remark, particularly, on the perverted action of the senses in disease; though I will say that this perversion is of the same (or a similar) sort as we witness in health. There is a regular gradation between morbid and healthy action. Certain states of an organ, coming on more or less abruptly, and succeeding to very different states, would be called disease; while the same states, if they are habitual to the individual, would be nothing more than eccentricity. We recognize this resemblance when we say of a very eccentric man that he is cranium-cracked.

The eye is the most popular, if not the most important, of the senses; and it is accounted the most reliable. "That which a man sees he knows;" and yet, it will be easy to show that a person may see much more than he knows, and know what he is unable to see. When you whirl round rapidly in the air a burning stick, the eye sees an unbroken circle of light, and yet no such circle exists. The organ is cheated by the rapid motion, and tries to cheat you. You have, perhaps, heard of the farmer who mistook an uneasy parasitic insect on his overhanging brow for a riotous and much larger brute in his distant corn-

field.\* In your dreamy moods, you may have been interested in looking, in the twilight, with steady gaze, at the cracks and figures on an old house-wall. What fantastic forms rise up before you—hideous human faces and distorted specimens of the brute creation! All that is necessary to make a well executed landscape painting appear like the landscape itself is to forget circumstances and situation, and to imagine that the appearance is reality. Thus mere colors spread on canvass are transformed into lakes, rivers, mountain ranges, trees, flocks and herds, &c. Several years ago there was an engraving in circulation, in one part of which was to be seen Napoleon's figure, being formed by the branches and foliage of a tree said to be growing over the Conqueror's grave in St. Helena. There it was, cocked hat, sword, surtout and all, the most prominent object in the picture; and yet the eye might search in vain for it, unless it had first been pointed out. That boasted visual organ, so veracious and so keen, failed to discover a plain object directly under the nose. I might multiply these illustrations indefinitely. The truth is, the eye is quick enough to discover that which already exists in the mind, but may be stone blind to whatever has not that prior existence. To prevent the eye from seeing or the ear from hearing, you have but to turn away the thoughts, or occupy the attention with other matters. Thus the pick-pocket contrives to relieve you of your purse (shin-plasters, I should say.) Thus the ventriloquist deceives you as to the sounds he utters, and the direction from which they come. This deceit is most easily practised when the feelings are excited, or the mind is under the control of strong emotion. Take a man heated with passion, or

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\* Scarcely less amusing is the case of the nice young doctor, just from Paris, whose exploits are celebrated by Holmes in his "Stethoscope Song." Two flies, it seems, had got entangled in the hollow of his Stethoscope :—

"The first was a bottle-fly, big and blue,  
The second was smaller, and thin and long;  
So there was a concert between the two,  
Like an octave flute and a tavern gong."

When the instrument, thus tenanted, was placed, one end on the chest of an invalid, and the other in contact with the practised and ample ear of the youth, appalling sounds were heard which told of strange and hitherto unsuspected disease going on within.--I must refer to the ballad itself for particulars.



an enthusiast half phrenzied with an idea, and he knows little of what is going on around him. His senses are the helpless slaves of his inward faculties, traveling in the narrow circle prescribed for them. They magnify—present in the hugest proportions—those objects which are inside this fatal circle, and take no cognizance of whatever lies beyond. Instead of correcting prejudice and breaking up delusion, they fortify both. Instead of putting out the fire, they heap on fuel.

One reason of the dependance of the senses on mental conditions—of their almost utter helplessness when the mind is ruled by some overmastering passion or idea—may be found in the fact that the knowledge which they of themselves furnish is extremely limited. Most of that which we give them credit for comes from a very different source—from the mind itself. The eye perceives colors, the nostril odors, the tongue sapid qualities, the ear vibrating impulses. And this is the extent of the knowledge they convey. All else is provided by the intellectual faculties. Philosophically speaking, the eye does not see a house or a man, the ear does not hear a flute, the nostrils do not smell a rose, &c. Our notion of a house, a flute, a rose, is a very complex one ; and is not provided, but only suggested, by sensation.—But I have no time to discuss this subject.

The most infallible of the sciences are those which are independent of sensation, their data being furnished by the intellect. In our mathematical reasonings, for instance, we feel that we tread upon solid ground. Each step is sure and the conclusion certain. No similar confidence attaches to our movements in the natural sciences.

If the senses are the most popular of the faculties of the mind, *facts*, so called, are the most popular of the materials of science. A large and obtrusive class of scientific facts is furnished, either directly or indirectly, by sensation, and their origin alone would secure them distinction and respect.

Facts are, indeed, in one sense, the foundation of science—the raw material out of which it is constructed. Those which are apprehended by the senses—sensible facts—are regarded as, in a peculiar sense, stable and certain. They have, as it were, form

and substance—are visible, audible, tangible—may sometimes be pictorially represented. If there is dispute about them, their reality may be tested by sensation. Being addressed to the senses, they make a distinct, often vivid, impression; and, in the normal condition of the faculties, cannot so well be misunderstood. Dullness itself can scarcely resist them.—For these reasons, they are supposed to be, in an eminent degree, solid and reliable. For these reasons, teachers have little difficulty in lodging them in the mind, and making them fast to the memory. The facts of Anatomy, Operative Surgery, Botany, and what are termed the demonstrative branches of Medicine, are of this description. These branches are usually popular.

Facts, however, of whatever kind, to be worth any thing, must be scrutinized, selected and authenticated. The enumeration must be complete; none included which should be left out; none distorted or perverted. If these precautions are neglected, the structure into which they are wrought will prove misshapen and insecure. It was Cullen, I believe, who said there were, in Medicine, more false facts than theories. Cullen had the strong common sense which all admire but few possess. His unrivalled volumes should be attentively read by every young physician.

I would not undervalue facts—real facts, as the expression is. They are the starting point of scientific inquiry. Out of them we eliminate principles, and from them we construct systems. They are the materials with which we work, skillfully or unskillfully—are contributions to the temple of science. The necessary means to an end, of themselves they are nothing. They are not the temple itself, as many seem to suppose. Isolated, scattered about promiscuously, or thrown at random into heaps, they are mere brick and mortar, without form, beauty or use. To be servicable, they must be assorted, classified, laid one upon the other and cemented; formed into massive walls, lofty towers and graceful arches.

The nature and function of facts, as a constituent part of science, are greatly misunderstood. Our own profession has suffered as a consequence. Facts—by which I here mean particular facts—are too often thought to be the sole object of study. They are gathered into huge masses without reference to their fitness or uses. Too little pains are taken to arrange them into



some orderly system, and to deduce from them principles and rules. It is not sufficiently considered, that before they can be turned to practical account, their connections and relations must be sought out, and the law which binds them discovered. Not till this is done, do they gain significance—become intelligible signs and symptoms. Our medical books are, far too frequently, a medley of odds and ends, items and details, interspersed with curious statements, extraordinary cases and *lusus naturæ*. A physician is looked upon as learned and able in proportion to the capacity and contents of his memory. In common phrase, he is the greatest doctor who has seen the greatest number of cases. And yet, a mere case-doctor is a narrow-minded man. His resources, though vast in appearance, are limited in fact, and do not avail him in the emergencies he is called on to meet. He is a man of precedents more than principles. His knowledge is carried on his back rather than in his head; and it appears to oppress more than support him. If he wants any thing, he must lay down his pack, and hunt for it among a world of rubbish. Ten to one against his finding what he needs, and if he does, very likely the discovery comes too late. A physician, more than most men, should have his stores at command. A compact, well ordered mind is what he wants—a mind liberally furnished with general as well as particular facts, with some depth as well as surface, and which will yield up its treasures at the right time. The wisest man is not he who is proprietor of most lumber; who carries the biggest pack; who can make the greatest display of fragments and curiosities; but he who exhibits the best method; who is the most thorough master of his materials; who is best armed with principles. Principles, in truth, should be the aim and end of study. They alone will avail us at the bed-side of sickness. They alone have a permanent value. They alone survive the individual, and go down to future generations. Medicine is progressive only as they are discovered and their dominion extended. Without them, it would be necessary for every successive prescriber for disease to begin where his fathers began. Without them, books would not benefit him; nor could he gain wisdom from experience. We accumulate available knowledge in no other way than by deducing principles and finding rules which may guide us in future

emergencies. In this way, by the united effort of many individuals, and the successive additions of numerous generations, a body of knowledge is at least obtained which may be dignified by the name of science. In no other method can Medicine reach that perfection to which we all hope it is destined.

In closing my remarks, my young friends of the graduating medical class, I will express the hope that, in leaving this Institution, you will not relax your studies. Be not misled by the common error that you may lay aside your books when you put off the harness of pupilage. If you cherish the idea that you may depend wholly on your personal observation—on what is called *experience*—for your knowledge, you will discover (or other's will) that you have made a great mistake. I would not undervalue experience. It is indispensable ; but so are reading and study. What is vulgarly called experience every nurse has, every Indian doctress, every strolling root or steam doctor. That which distinguishes the enlightened physician from the imposter or the quack is not experience in this low sense, but intellectual culture, liberal mental endowment and rational views. The scientific practitioner, in prescribing, consults the established canons of his profession. He is governed by a body of principles which he has obtained from many sources. In establishing them, he has not confined himself to his own narrow field of observation, but has drawn from the whole world, past and present. Every thing, fact, conclusion and deduction, has been submitted to the crucible of thought. Not so with the empyric. He consults only his receipt book, containing, perhaps, but a single recipe. His peculiar skill he has acquired by inheritance, or purchase, or inspiration. He has had experience enough ; that is, he has seen sickness enough and in sufficient variety, but has learned nothing. Indeed, his system of practice admits of no improvement. It is perfect at starting. All diseases are the same in essence, and one remedy is sufficient for the whole. You must not, then, put your dependence on experience, thus termed. The nurses and the quacks will beat you on that tack. Would you secure personal honor and the welfare of your patients, you must enlarge your stores of knowledge by a familiarity with books. You must observe, but you must also study. Lose no opportunity to gather facts, but remember to authenti-



cate them. And whatever their source, recollect that, to be of use, they must be digested and assimilated—converted into thought-plasma as food is into blood-plasma. In this way, they are fitted to become a part of the intellect. Mental tissue is formed, the faculties are expanded, their working force increased, and the available stores of the mind replenished. In the practice of your profession, you will need all the assistance within your reach, external and internal. It will not do to spurn other's aid. The best of us know none too much—are none too wise ; and that man who rejects the helps he might have ; who, with the intelligence of a mill-horse, is content to travel forever within the narrow circle of his own observation, is not of the wisest. Poor indeed in resources must be that physician whose knowledge does not extend beyond the limits of his personal experience.

